

ABSTRACT OF THE DISCLOSURE

5 A multi-chip system is disclosed for distributing the convolution process. Rather
than having multiple convolution chips working in parallel with each chip working on a
different portion of the screen, a new design utilizes chips working in series. Each chip is
responsible for a different interleaved region of screen space. Each chip performs part of
the convolution process for a pixel and sends a partial result on to the next chip. The
final chip completes the convolution and stores the filtered pixel. An alternate design
10 interconnects chips in groups. The chips within a group operate in series, whereas the
groups may operate in parallel.